

# IMPROVED DRILL STRING TRANSMISSION LINE

## Abstract

A transmission line assembly for transmitting information along a downhole tool comprising a pin end, a box end, and a central bore traveling between the pin end and the box end, is disclosed in one embodiment of the invention as including a protective conduit. A transmission line is routed through the protective conduit. The protective conduit is routed through the central bore and the ends of the protective conduit are routed through channels formed in the pin end and box end of the downhole tool. The protective conduit is elastically forced into a spiral or other non-linear path along the interior surface of the central bore by compressing the protective conduit to a length within the downhole tool shorter than the protective conduit.